

Remarks/Arguments:

Introduction

Claims 1-16 are pending. Claim 1 has been amended to describe the article as consisting essentially of the recited elements. No new matter is introduced with this amendment.

Section 103 Rejections

Claims 1-9¹ are rejected under 35 U.S.C § 103(a) as allegedly being unpatentable over U.S. Patent No. 4,831,062 to von Bonin (hereinafter "von Bonin '062") in view of U.S. Patent No. 4,992,481 to von Bonin (hereinafter "von Bonin '481") and in further view of U.S. Patent No. 5,214,200 to Waller (hereinafter "Waller"). Claims 10-16 are rejected under 35 U.S.C § 103(a) as allegedly being unpatentable over von Bonin '062 in view of von Bonin '481, in further view Waller and in further view of European Patent Application No. EP 1 001 000 A1 to Ermanno Magni (hereinafter "Magni"). Applicant respectfully traverses.

Patentability of Claims 1-9:

von Bonin '481 is directed to foam moldings containing a liquid flame-proofing impregnation. (von Bonin '481, abstract). The fire retardant elements of von Bonin '481 must include, *inter alia*, compressible foam moldings, i.e., soft polyurethane foams. (von Bonin '481, column 4, lines 8-11).

The fibre-reinforced building article having fire protection properties of independent claim 1 has been amended to read, *inter alia*, that the article consisting essentially of

(i) a matrix of a binding material consisting essentially of an aluminous cement, a carboxylic ether polymer based plasticizer, a fugitive material, filler, and alkali-resistant glass fibers, and

¹ Assumed that claims 1-9 are rejected here.

(ii) at least one fiber layer of alkali-resistant glass fibers, incorporated in the matrix. Thus, the article of independent claim 1 does not include the polyurethane foam as required by von Bonin '481.

Thus, the elements of von Bonin '481 are substantially different from the articles of the presently claimed invention in that the articles of presently claimed invention are not polyurethane foams as described and required by von Bonin '481.

In establishing a *prima facie* case of obviousness, the cited references must be considered for the entirety of their teachings. *Bausch & Lomb, Inc. v. Barnes-Hind, Inc.*, 230 U.S.P.Q. 416, 419 (Fed. Cir. 1986). It is impermissible during examination to pick and choose from a reference only so much that supports the alleged rejection. *Id.* For example, the Examiner may not properly pick the specific teachings of aluminous cement from von Bonin '481 while ignoring the overall described product of von Bonin '481, in particular von Bonin '481's requirement of polyurethane foams in its article. Thus, the specific teachings of von Bonin '481, in particular the requirement of polyurethane foams, which teach away from the present invention, must be considered by the examiner.

von Bonin '062 is directed to intumescent materials obtained from the reaction of polyisocyanates with phosphorus-containing condensation products containing at least two hydroxyl groups and boron oxides and/or dehydration products of boric acids. (von Bonin '062, column 1, lines 27-32). The polyisocyanate is described as having the formula of $Q(NCO)_m$, where m represents a number from 2 to 4, and Q represents an aliphatic hydrocarbon radical having 2 to 18 carbon atoms, a cycloaliphatic hydrocarbon radical having 4 to 15 carbon atoms, an aromatic hydrocarbon radical having 6 to 15 carbon atoms, or an araliphatic hydrocarbon radical having 8 to 15 carbon atoms. (von Bonin '062, column 1, lines 33-53). The phosphorus-containing condensation products containing at least two hydroxyl groups is described as having the formula of $(RO)_2PO-CH_2-N(CHX-CHX_1-OH)_2$, R is a C_1 to

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C₈ alkyl or a C₁ to C₈ hydroxyalkyl, and X and X₁, independently of one another, represent hydrogen or methyl. (von Bonin '062, column 3, lines 7-17). Useful boron oxides and /or dehydration products of boric acids are described as including H₃BO₃ and B₂O₃. (von Bonin '062, column 3, lines 33-36). The present invention, as claimed, excludes such required materials of von Bonin '062.

A further deficiency is that von Bonin '062 fails to teach or suggest the use of a carboxylic ether polymer based plasticizer. For example, von Bonin '062 specifically teaches that suitable plasticizers for its intumescent materials include plasticizers "of the phosphoric acid ester and/or phosphonic acid ester". (von Bonin '062, column 4, lines 14-16). While such phosphoric acid ester and/or phosphonic acid ester plasticizers may be useful with von Bonin '062's polyisocyanate/phosphorus-containing-condensation-products/boron-containing intumescent materials, von Bonin '062 fails to teach to or suggest that carboxylic ether polymer based plasticizers may be used with intumescent materials, in particular intumescent materials having aluminous cement that are void of polyurethane foams.

Waller merely discloses a process for producing organic esters by reacting a carboxylic acid and a dialkyl ether under the presence of a particular catalyst, for example HI or LiI. (Waller, abstract; column 3, line 45). Waller fails to disclose, teach or suggest that its organic esters may be as plasticizers, in particular non-flammable plasticizers.

The only teaching of record of a carboxylic ether polymer based plasticizer for use in a fibre-reinforced building article having fire protection properties is the subject application. It is well established that hindsight reconstruction of a reference does not present a *prima facie* case of obviousness, and any attempt at hindsight reconstruction using Applicants' disclosure is strictly prohibited. *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1445-46 (Fed. Cir. 1993). As von Bonin '062, von Bonin '481 and Waller, individually or in combination, fail to teach or suggest a carboxylic ether polymer based plasticizer for use in a fibre-reinforced building article having

fire protection properties, any attempt to modify their teachings to the same is hindsight reconstruction.

Thus, von Bonin '062, Bonin '481 and Waller, individually or in combination, fail to teach or suggest the current invention as presently defined by claims 1 to 9. Reconsideration and withdrawal of the rejections of claims 1-9 are therefore respectfully requested.

Patentability of Claims 10-16:

Magni is directed to a process for providing fire protection. (Magni, page 2, line 30). The process of Magni includes the preparing of a slurry and the coating of a layer of unfired slurry onto a construction article. (Magni, page 2, lines 31-34). The coating is made from a mixture of kaolin, chalk, powdered isolating refractory brick, refractory filler, sawdust, aluminous cement and possibly Portland cement. (Magni, page 3, lines 29-30).

Thus, Magni fails to teach or suggest that its slurry may be cast into a mould as Magni is directed to a coating process for its slurry. Further, Magni fails to teach or suggest that its coating mixture may contain a plasticizer. More particularly, Magni fails to teach or suggest the use of a carboxylic ether polymer based plasticizer. Still further, Magni fails to teach or suggest the placing of alkali-resistant glass fibers in at least one fiber layers into a mould during the casting of its slurry to form a preform therefrom.

Method claim 10 specifies forming the building article as a preform first and allowing the preform thus obtained to dry. This is diametrically opposed to von Bonin '481, which rather applies a moist foam. Also in von Bonin '062 a foam is also specifically applied. von Bonin '062 concerns intumescent material obtained by reacting a polyisocyanate with a phosphorus-containing condensation product, and thus differs (substantially) from a product having a cement as matrix material. Waller, as explained above, does not disclose polycarboxylic ethers and/or the use of such products as plasticizer. Indeed, Waller does not

say anything on plasticizers at all. Magni teaches a coating. Magni fails to teach or suggest the preparation of a fibre-reinforced building article and the method of making the same by casting a slurry. More specifically, Magni at page 2, lines 50-58, page 3, lines 2-22 and page 4, lines 36-38 does not refer to casting at all. Magni teaches the application of the slurry by (spray) coating, which is different from casting. The expression "casting" and/or a identical expression may not be found in Magni. Should one of ordinary skill in the art attempt to apply the teachings of Magni, this would never have lead to the preparation of the current building articles made by casting a suitable binder material in a mould to form a preform and allowing the same to be obtained by drying the preform. Thus, claims 10-16 therefore are patentably distinct over von Bonin '062 in view of von Bonin '481 in further view of Waller and in view of Magni.

Thus, Magni fails to cure the deficiencies of von Bonin '062, Bonin '481 and Waller. Therefore, the combination of von Bonin '062, Bonin '481, Waller and Magni fails to teach or suggest a method comprising, *inter alia*, the steps of casting an aqueous mixture of binding material comprising an aluminous cement, a fugitive material, filler, alkali-resistant fibers and a carboxylic ether polymer based plasticizer, into a mould, and positioning additional alkali-resistant glass fibers in at least one fiber layer in the mould during casting, in order to obtain a preform and allowing the thus obtained preform to dry.

Accordingly, it is respectfully submitted that von Bonin '062, Bonin '481, Waller and Magni, individually or in combination, fail to teach or suggest the current invention as presently set forth in claims 10-16. Reconsideration and withdrawal of the rejection of claim 10-16 are respectfully requested.

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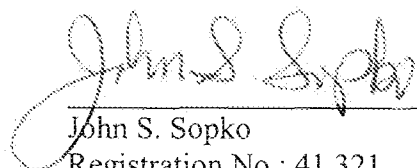
Summary

Therefore, Applicants respectfully submit that independent claims 1 and 10, and all claims dependent therefrom, are patentably distinct. This application is believed to be in condition for allowance. Favorable action thereon is therefore respectfully solicited.

Should the Examiner have any questions or comments concerning the above, the Examiner is respectfully invited to contact the undersigned attorney at the telephone number given below.

The Commissioner is hereby authorized to charge payment of any additional fees associated with this communication, or credit any overpayment, to Deposit Account No. 08-2461. Such authorization includes authorization to charge fees for extensions of time, if any, under 37 C.F.R. § 1.17 and also should be treated as a constructive petition for an extension of time in this reply or any future reply pursuant to 37 C.F.R. § 1.136.

Respectfully submitted,



John S. Sopko
Registration No.: 41,321
Attorney for Applicants

HOFFMANN & BARON, LLP
6900 Jericho Turnpike
Syosset, New York 11791
(973) 331-1700